

U.S.S.N.: 09/854,204

-2-

Group Art Unit: 1642

Amendments to the Claims:

This listing of claims will replace all prior version, and listings, of claims in the application.

Listing of Claims

1. **(Currently Amended)** A membrane translocation peptide carrier moiety ~~comprising~~ consisting of formula;

(a) RRMKWKK (SEQ ID NO: 2)

1 7

~~or a variant thereof, wherein~~

(b) SEQ ID No 2, wherein one or more amino acid residues are replaced by a naturally or non-naturally occurring amino acid residue;

(c) SEQ ID No 2, wherein the order of one or more amino acid residues are reversed;

(d) SEQ ID No 2, wherein both (b) and (c) are present together;

(e) SEQ ID No 2, wherein a spacer group is present between any two amino acid residues;

(f) SEQ ID No 2, wherein one or more amino acid residues are in peptoid form;

(g) SEQ ID No 2, wherein the (N-C-C) backbone of one or more amino acid residues of the peptide carrier moiety has been modified; or

(h) SEQ ID NO:2, having any of (b)-(g) in combination

Claims 2-48 (Canceled)

U.S.S.N.: 09/854,204

-3-

Group Art Unit: 1642

49. **(Previously Presented)** A carrier moiety according to claim 1, wherein one or more amino acid residues are replaced by homologous replacement.

50. **(Canceled)**

51. **(Previously Presented)** A carrier moiety according to claim 1, wherein one or more amino acid residues are replaced by non-homologous replacement.

52. **(Canceled)**

53. **(Currently Amended)** A carrier moiety according to ~~any of claims 47 to~~ claim 51, wherein the replacement amino acid is a non-natural amino acid selected from the group consisting of: α * and α -disubstituted* amino acids, N-alkyl amino acids*, lactic acid*, halide derivatives of natural amino acids ~~such as trifluorotyrosine*, p-Cl-phenylalanine*, p-Br-phenylalanine*, p-I-phenylalanine*,~~ L-allyl-glycine*, β -alanine*, L- α -amino butyric acid*, L- γ -amino butyric acid*, L- α -amino isobutyric acid*, L- ϵ -amino caproic acid*, 7-amino heptanoic acid*, L-methionine sulfone*, L-norleucine*, L-norvaline*, p-nitro-L-phenylalanine*, L-hydroxyproline*, L-thioprolin*, and methyl derivatives of phenylalanine (Phe) ~~such as 4-methyl-Phe*, pentamethyl-Phe*,~~ L-Phe (4-amino)*, L-Tyr (methyl)*, L-Phe (4-isopropyl)*, L-Tic (1,2,3,4-tetrahydroisoquinoline-3-carboxyl acid)*, L-diaminopropionic acid* and L-Phe (4-benzyl)*, wherein the notation * indicates that the derivative is hydrophobic nature of ~~the derivative, the notation # indicates the hydrophilic nature of the derivative, and the notation #* indicates amphipathic characteristics.~~

54. **(Currently Amended)** A carrier moiety according to claim 1, wherein the order of the second and third amino acids from the C-terminal end of the peptide ~~are~~ is reversed.

55. **(Previously Presented)** A carrier moiety according to claim 1, wherein a spacer group is present between any two amino acid residues, and the spacer group is an

U.S.S.N.: 09/854,204

-4-

Group Art Unit: 1642

alkyl group.

56. **(Previously Presented)** A carrier moiety according to claim 55, wherein the alkyl group is selected from the group consisting of methyl, ethyl and propyl groups.

57. **(Previously Presented)** A carrier moiety according to claim 1, wherein a spacer group is present between any two amino acid residues, and the spacer group is an amino acid residue.

58. **(Currently Amended)** A carrier moiety according to claim 57, wherein the spacer group is selected from the group consisting of glycine ~~or~~ and β -alanine.

59. **(Previously Presented)** A carrier moiety according to claim 1, wherein one or more amino acids are in peptoid form.

60. **(Currently Amended)** A carrier moiety according to claim 1, wherein one or more amino acid residues at any of positions 1, 2, 3, 5 ~~or~~ 6 or 7 of said formula (SEQ ID No. 2) are replaced by a naturally or non-naturally occurring amino acid.

61. **(Currently Amended)** A carrier moiety according to claim 1, wherein the order of one or more amino acid residues at any of positions 1, 2, 3, 5 ~~or~~ 6 or 7 of said formula (SEQ ID No. 2) are reversed.

62. **(Currently Amended)** A carrier moiety according to claims 60, wherein the amino acid residue at position 3 or 7 of said formula (SEQ ID No. 2) is replaced.

63. **(Currently Amended)** A carrier moiety according to claim 60, wherein the amino acid residue at position 3 of said formula (SEQ ID No. 2) is replaced.

64. **(Currently Amended)** A carrier moiety according to claim 61, wherein the order of the amino acid residue at position 3 or 7 of said formula (SEQ ID No. 2) is

U.S.S.N.: 09/854,204

-5-

Group Art Unit: 1642

reversed.

65. (Currently Amended) A carrier moiety according to claim 61, wherein the order of the amino acid residue at position 3 of said formula (SEQ ID No. 2) is reversed.

66. (Currently Amended) A carrier moiety according to claims 49 ~~or 50~~ wherein homologous replacement occurs at any of positions 1 and 2 of said formula (SEQ ID No. 2).

67. (Currently Amended) A carrier moiety according to claims 51 or 53, wherein non-homologous replacement occurs at any of positions 3, 4, 5 and 6 of said formula (SEQ ID No. 2).

68. (Currently Amended) A carrier moiety according to claims 1, 49, 50, or 51, or 52, wherein ~~more than one amino acid residue is~~ two amino acid residues of said formula (SEQ ID No. 2) are replaced by homologous or non-homologous replacement.

69. (Currently Amended) A carrier moiety according to claim 68, wherein amino acid residues at positions 2 and 3 of said formula (SEQ ID No. 2) are replaced.

70. (Currently Amended) A carrier moiety according to claim 68, wherein amino acid residues at positions 4 and 5 of said formula (SEQ ID No. 2) are replaced.

71. (Currently Amended) A carrier moiety according to claim 68, wherein amino acid residues at position 5 and 6 of said formula (SEQ ID No. 2) are replaced.

72. (New) A carrier moiety according to claim 53, wherein the halide derivative is selected from the group consisting of trifluorotyrosine*, p-Cl-phenylalanine*, p-Br-phenylalanine*, and p-I-phenylalanine*.

73. (New) A carrier moiety according to claim 53, methyl derivative of

U.S.S.N.: 09/854,204

-6-

Group Art Unit: 1642

phenylalanine (Phe) is selected from the group consisting of 4-methyl-Phe*, and pentamethyl-Phe*.

61 74. (New) A carrier moiety of claim 1, wherein the free carboxyl group of the carboxy terminal amino acid residue is in the form -C(O)-NRR', wherein R and R' are each independently selected from the group consisting of: hydrogen, C1-6 alkyl, C1-6 alkylene or C1-6 alkynyl, aryl, each optionally substituted a heteroatom.

75. (New) A carrier moiety according to claim 74, wherein free carboxyl group of the carboxy terminal amino acid residue is a carboxamide group.
